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# Expert offers anatomy lesson — with visual aids

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Odessa American/Mark Rogers  
Dr. Joy Reidenberg talks to AVID student in the Odessa High School Performing Arts Center Tuesday morning.



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Posted: Tuesday, November 13, 2018 3:51 pm  
By Ruth Campbell [rcampbell@oaoa.com](mailto:rcampbell@oaoa.com)



Posted on Nov 13, 2018  
by Ruth Campbell

World-renowned comparative anatomist Joy Reidenberg offered hundreds of high school students a chance to learn all about bones Tuesday at the Odessa High School Performing Arts Center.

Reidenberg's presentation was called "Anatomy: The Inside Story."

Using skulls, reproductions of bones and skeletons and a document camera, Reidenberg told students where bones in the body are located, why they are where they are, some of the evolution of bones and how you can tell how old someone is by their teeth.

She showed the audience an adult, brown skull that had been taken out of the ground. Reidenberg said bones aren't white unless they're bleached.

Showing the jaws of a skull, Reidenberg said you can tell how old someone is by the number of teeth in their mouth, assuming they haven't been pulled.

Reidenberg said the first molars come in at age 6; a second at 12; and a third at 17 or 18. How flat the teeth are is another clue, she said.

Younger teeth have more pronounced divots and flatten out as people gets older. If you're a vegetarian, teeth wear down faster because of the fiber. Fiber wears down teeth, kind of like a millstone.

The part of the nose that sticks out is held up by

cartilage.

The skull, she said, is like a helmet for the brain. The five senses of sight, smell, taste, hearing and touch come from the brain. But balance is like the sixth sense, she said, and it resides in the ears.

## Today's Edition



Reidenberg also showed how all the bones in the skeleton connect and move. One thing that stuck with some students is that the foot is more advanced than the hand.

She said there are seven vertebrae in the neck and it is the same for all mammals. Giraffes have seven vertebrae in their necks, they're just long; and whales have the same number, but they are short.

There are 12 vertebrae in someone's back and they change shape from first to last. Lumbar vertebrae are in the lower back and are big, fat and chunky, she said to more easily handle your body weight.

A feature of chest vertebrae is that they can support ribs. Reidenberg described them as bucket handles that can swing up and down to help the chest be the size it needs to be when you breathe.

She also covered the shoulders, pelvis, arms, elbows, knees, legs, ankles, hands and feet.

Permian High School anatomy and physiology teacher Karen Hart said she hopes the connections Reidenberg made will stay with her students because they will be learning about bones, plus the markings on them.

"I'm hoping it will lead to questions they can ask as we go over them," Hart said.

PHS senior Randy Garcia, 17, said the presentation was very informative. He hopes to become a pediatrician.

"She made it a whole lot of fun, so whenever I do learn about the ortho it won't be as hard," Garcia said.

Justin Rios, a 17-year-old Odessa High School senior, said he thought the talk was interesting and sometimes funny.

"... I was really interested because I've been thinking about trying to be something with anatomy," Rios said.

He added that they are learning some of the same things in class right now, so it was a bit of a review.

Victoria Balcazar, 17, also a senior at OHS, said she liked Reidenberg's presentation, as well.

"I learned a lot from it," Balcazar said. She added that she is interested in anatomy and physiology.

She said she was thinking about going into radiology "because I like bones."

Balcazar said becoming a dentist is another possibility and she didn't know about being able to tell someone's age through their teeth before Tuesday.

Following her presentations, Reidenberg will accompany a group of ECISD teachers and administrators on a professional development exploration. This group will begin its journey at Northwest ISD, one of ECISD's partner school districts, for collaborative presentations and workshops.

The next few days will include hands-on fieldwork, a visit to the Perot Museum to learn from biology experts with a possible pre-historic vertebrate survey on the Trinity River. The group will also visit a mine to learn about geology, stratigraphy and engineering. The mine holds ancient marine sediment that contains fossils, which the explorers will be able to keep for their classroom, a news release said.

This is the same material used in the SharkFinder Citizen Science program where students search for fossils of scientific significance. The Dallas Paleontological Society and Southern Methodist University paleontologists will also be joining the professional development exploration.

**Ruth Campbell covers education for the Odessa American. Reach her at 432-333-7765 or 432-333-7765 or [rcampbell@oaoa.com](mailto:rcampbell@oaoa.com)**



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